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TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

ANALYTICAL REPORT

Job Number: 360-24081-1

Job Description: Slurry wall Cap

For:
Olin Corporation
3855 North Ocoee Street
Suite 200
Cleveland, TN 37312-4441

Attention: Mr. Steven Morrow

CHECKED FOR COMPLETENESS OF PARAMETERS ORDERED BY:

Approved for release.
Joe Chimi
Report Production Representative
8/24/09 3:11 PM

Designee for
Becky C Mason
Project Manager II
becky.mason@testamericainc.com
08/24/2009

Results relate only to the items tested and the sample(s) as received by the laboratory. The test results in this report meet all NELAC requirements for accredited parameters, exceptions are noted in this report. Pursuant to NELAC, this report may not be reproduced except in full, and with written approval from the laboratory. TestAmerica Westfield Certifications and Approvals: MADEP MA014, RIDOH57, CTDPH 0494, VT DECWSD, NH DES 2539, NELAP FL E87912 TOX, NELAP NJ MA008 TOX, NELAP NY 10843, NY ELAP 10843, North Carolina 647, NELAP PA 68-04386. Field sampling is performed under SOPs WE-FLD-001 and WE-FLD-002.

TestAmerica Laboratories, Inc.
TestAmerica Westfield Westfield Executive Park, 53 Southampton Road, Westfield, MA 01085
Tel (413) 572-4000 Fax (413) 572-3707 www.testamericainc.com

ACCREDITED IN ACCORDANCE WITH nelac

Table of Contents

MADEP MCP Analytical Method Report Certification Form

Laboratory Name:	**TestAmerica Westfield**	Project #:	**360-24081-1**
Project Location:	**Slurry Wall / Cap**	MADEP RTN[1]:	

This form provides certifications for the following data set:[list Laboratory Sample ID Number(s)]
360-24081-(1-9)

Sample Matrices: **Groundwater** Soil/Sediment Drinking Water Other:

MCP SW-846 Methods Used	8260B( )	8151A ( )	8330 ( )	6010B (**x**)	7470A/1A ( )	Other ( )
	8270C( )	8081A ( )	VPH ( )	6020 ( )	9014M[2]/9012 ( )	
As specified in MADEP Compendium of Analytical Methods. (check all that apply)	8082 ( )	8021B ( )	EPH ( )	7000 S[3]( )	7196A ( )	

1 List Release Tracking Number (RTN), if known
2 M - SW-846 Method 9014 or MADEP Physiologically Available Cyanide (PAC) Method
3 S - SW-846 Methods 7000 Series List individual method and analyte.

An affirmative response to questions A, B, C and D is required for "Presumptive Certainty" status

A	Were all samples received by the laboratory in a condition consistent with that described on the Chain-of-Custody documentation for the data set?	Yes √		No[1]
B	Were all QA/QC procedures required for the specified analytical method(s) included in this report followed, including the requirement to note and discuss in a narrative QC data that did not meet appropriate performance standards or guidelines?	Yes √		No[1]
C	Does the analytical data included in this report meet all the requirements for "Presumptive Certainty", as described in Section 2.0 (a), (b), (c) and (d) of the MADEP document CAM VII A, " Quality Assurance and Quality Control Guidelines for the Acquisition and Reporting of Analytical Data"?	Yes √	N/A	No[1]
D	**VPH and EPH methods only:** Was the VPH or EPH Method conducted without significant modifications (see Section 11.3 of respective Methods)?	Yes	N/A √	No[1]

A response to questions E and F below is required for "Presumptive Certainty" status

E	Were all QC performance standards and recommendations for the specified methods achieved?	Yes √		No[1]
F	Were results for all analyte-list compounds/elements for the specified method(s) reported?	Yes	N/A	No[1] √

[1] All Negative responses must be addressed in an attached Environmental Laboratory case narrative.

I, the undersigned, attest under the pains and penalties of perjury that, based upon my personal inquiry of those responsible for obtaining the information, the material contained in this analytical report is, to the best of my knowledge and belief, accurate and complete.

Signature:  **Position:** Laboratory Director

Printed Name: Steven C. Hartmann **Date:** 8/24/09 14:58

The certification form has been electronically signed and approved. CAM VII A, Rev 3.2 April-04

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

MADEP MA014
NY DOH 10843
RI DOH 57
CT DPH 0494
VT DECWSD

NELAP FL E87912 TOX
NELAP NJ MA008 TOX
NELAP NY 10843
NH DES 253901-A

TestAmerica Westfield
53 Southampton Rd,
Westfield, MA 01085
Tel:(413)572-4000
Fax:(413)572-3707

MADEP MCP Analytical Method Report Certification Form

Laboratory Name:	**TestAmerica Westfield**	Project #:	**360-24081-1**
Project Location:	**Slurry Wall / Cap**	MADEP RTN[1]:	

This form provides certifications for the following data set:[list Laboratory Sample ID Number(s)]
360-24081-(1-9)

Sample Matrices: **Groundwater** Soil/Sediment Drinking Water Other:

MCP SW-846 Methods Used	8260B( )	8151A ( )	8330 ( )	6010B ( )	7470A/1A ( )	Other (**x**)
	8270C( )	8081A ( )	VPH ( )	6020 ( )	9014M[2]/9012 ( )	
As specified in MADEP Compendium of Analytical Methods. (check all that apply)	8082 ( )	8021B ( )	EPH ( )	7000 S[3]( )	7196A ( )	

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A	Were all samples received by the laboratory in a condition consistent with that described on the Chain-of-Custody documentation for the data set?	Yes √		No[1]
B	Were all QA/QC procedures required for the specified analytical method(s) included in this report followed, including the requirement to note and discuss in a narrative QC data that did not meet appropriate performance standards or guidelines?	Yes √		No[1]
C	Does the analytical data included in this report meet all the requirements for "Presumptive Certainty", as described in Section 2.0 (a), (b), (c) and (d) of the MADEP document CAM VII A, " Quality Assurance and Quality Control Guidelines for the Acquisition and Reporting of Analytical Data"?	Yes	N/A √	No[1]
D	**VPH and EPH methods only:** Was the VPH or EPH Method conducted without significant modifications (see Section 11.3 of respective Methods)?	Yes	N/A √	No[1]

A response to questions E and F below is required for "Presumptive Certainty" status

E	Were all QC performance standards and recommendations for the specified methods achieved?	Yes √		No[1]
F	Were results for all analyte-list compounds/elements for the specified method(s) reported?	Yes	N/A √	No[1]

[1] All Negative responses must be addressed in an attached Environmental Laboratory case narrative.

I, the undersigned, attest under the pains and penalties of perjury that, based upon my personal inquiry of those responsible for obtaining the information, the material contained in this analytical report is, to the best of my knowledge and belief, accurate and complete.

Signature:  **Position:** Laboratory Director

Printed Name: Steven C. Hartmann **Date:** 8/24/09 14:58

The certification form has been electronically signed and approved. CAM VII A, Rev 3.2 April-04

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CASE NARRATIVE

Client: Olin Corporation

Project: Slurry wall Cap

Report Number: 360-24081-1

This case narrative is in the form of an exception report, where only the anomalies related to this report, method specific performance and/or QA/QC issues are discussed. If there are no issues to report, this narrative will include a statement that documents that there are no relevant data issues as stipulated in the MCP reporting requirements.

In order to facilitate report review, a separate MCP Analytical Method Report Certification Form is included for each method requested.

It should be noted that samples with elevated Reporting Limits (RLs) as a result of a dilution may not be able to satisfy "MCP program" reporting limits in some cases if the "adjusted" RL is greater than the applicable MCP standards or criterion to which the concentration is being compared. Such increases in the RLs are an unavoidable but acceptable consequence of sample dilution that enables quantification of target analytes which exceed the calibration range.

Calculations are performed before rounding to avoid round-off errors in calculated results.

All holding times were met and proper preservation noted for the methods performed on these samples, unless otherwise detailed in the individual sections below.

The samples were received on 08/12/2009; the samples arrived in good condition, properly preserved and on ice. The temperature of the coolers at receipt was 1.2ºC.

Note: All samples which require thermal preservation are considered acceptable if the arrival temperature is within 2C of the required temperature or method specified range. For samples with a specified temperature of 4C, samples with a temperature ranging from just above freezing temperature of water to 6C shall be acceptable. Samples that are hand delivered immediately following collection may not meet these criteria, however they will be deemed acceptable according to NELAC and MADEP standards, if there is evidence that the chilling process has begun, such as arrival on ice, etc.

MCP regulatory standard criteria were not specified for this report. Therefore, method reporting limits (RLs) were not assessed against any MCP standards as it may pertain to Question "E" on the Presumptive Certainty Certification Form (MADEP reference: WSC-CAM-AN-093008 - WSC-CAM Analytical Notes).

DISSOLVED METALS

Samples 360-24081-1 through 360-24081-9 were analyzed for dissolved metals in accordance with EPA SW846 Method 6010B. The samples were analyzed on 08/13/2009.

All QA/QC procedures required to meet Presumptive Certainty for the specified analytical method were performed as per section B of the MADEP MCP analytical method report Certification form.

All QC performance standards and recommendations, which may affect Data Usability for this specific method, were achieved.

General method information:
At the request of the client, an abbreviated/modified MCP analyte list was reported for this job.

The following reported methods are not listed in the MADEP Massachusetts Contingency Plan (MCP) Compendium of Analytical Methods (CAM), pursuant to the provisions of 310 CMR 40.0017(2).

ANIONS

Samples 360-24081-1 through 360-24081-9 were analyzed for anions in accordance with EPA Method 300.0. The samples were analyzed on 08/14/2009, 08/15/2009 and 08/19/2009.

All QC performance standards and recommendations for this specific method were achieved.

Samples 360-24081-1(10X), 360-24081-2(20X), 360-24081-3 through 360-24081-8(10X), 360-24081-8(20X) and 360-24081-9(10X) required dilution prior to analysis. The reporting limits have been adjusted accordingly. Dilutions were due to high target concentration.

AMMONIA

Samples 360-24081-1 through 360-24081-9 were analyzed for ammonia in accordance with LACHAT 107-06-1B. The samples were prepared and analyzed on 08/17/2009.

All QC performance standards and recommendations for this specific method were achieved with the exception of:

Ammonia failed the MS/MSD recovery criteria low for the matrix spike and matrix spike duplicate of sample 360-24081-5 and exceeded the MS/MSD rpd limit. The associated LCS recovered within control limits. Refer to the QC report for details.

Samples 360-24081-1(10X), 360-24081-2(20X), 360-24081-3(20X), 360-24081-4(10X), 360-24081-5(5X), 360-24081-6(5X), 360-24081-7(10X), 360-24081-8(20X) and 360-24081-9(5X) required dilution prior to analysis. The reporting limits have been adjusted accordingly. Dilutions were due to high concentration.

SPECIFIC CONDUCTANCE (CONDUCTIVITY)

Samples 360-24081-1 through 360-24081-9 were analyzed for Specific Conductance (Conductivity) in accordance with SM 2510B. The samples were analyzed on 08/14/2009.

All QC performance standards and recommendations for this specific method were achieved.

This case narrative is available in Word format upon request.

EXECUTIVE SUMMARY - Detections

Client: Olin Corporation Job Number: 360-24081-1

Lab Sample ID / Analyte	Client Sample ID	Result / Qualifier		Reporting Limit	Units	Method
360-24081-1	**OC-GW-202S**					
Sulfate		430		20	mg/L	300.0
Chloride		42		10	mg/L	300.0
Ammonia		110		1.0	mg/L	L107-06-1B
Specific Conductance		1300		1.0	umhos/cm	SM 2510B
Dissolved						
Chromium		4.6	J	5.0	ug/L	6010B
360-24081-2	**OC-GW-202D**					
Sulfate		2100		40	mg/L	300.0
Chloride		340		20	mg/L	300.0
Ammonia		250		2.0	mg/L	L107-06-1B
Specific Conductance		5000		1.0	umhos/cm	SM 2510B
Dissolved						
Aluminum		20000		100	ug/L	6010B
Chromium		1400		5.0	ug/L	6010B
360-24081-3	**OC-PZ-16RR**					
Sulfate		880		20	mg/L	300.0
Chloride		150		10	mg/L	300.0
Ammonia		270		2.0	mg/L	L107-06-1B
Specific Conductance		2800		1.0	umhos/cm	SM 2510B
Dissolved						
Chromium		6.7		5.0	ug/L	6010B
360-24081-4	**OC-PZ-17RR**					
Sulfate		470		20	mg/L	300.0
Chloride		15		10	mg/L	300.0
Ammonia		67		1.0	mg/L	L107-06-1B
Specific Conductance		1400		1.0	umhos/cm	SM 2510B
Dissolved						
Chromium		3.4	J	5.0	ug/L	6010B

EXECUTIVE SUMMARY - Detections

Client: Olin Corporation

Job Number: 360-24081-1

Lab Sample ID / Analyte	Client Sample ID	Result / Qualifier		Reporting Limit	Units	Method
360-24081-5	**OC-GW-25**					
Sulfate		100		20	mg/L	300.0
Chloride		50		10	mg/L	300.0
Ammonia		62		0.50	mg/L	L107-06-1B
Specific Conductance		580		1.0	umhos/cm	SM 2510B
Dissolved						
Chromium		3.0	J	5.0	ug/L	6010B
360-24081-6	**OC-PZ-18R**					
Sulfate		92		2.0	mg/L	300.0
Chloride		84		10	mg/L	300.0
Ammonia		46		0.50	mg/L	L107-06-1B
Specific Conductance		680		1.0	umhos/cm	SM 2510B
Dissolved						
Chromium		19		5.0	ug/L	6010B
360-24081-7	**OC-GW-78S**					
Sulfate		510		20	mg/L	300.0
Chloride		17		10	mg/L	300.0
Ammonia		67		1.0	mg/L	L107-06-1B
Specific Conductance		1300		1.0	umhos/cm	SM 2510B
Dissolved						
Chromium		2.6	J	5.0	ug/L	6010B
360-24081-8	**OC-GW-79S**					
Sulfate		1200		40	mg/L	300.0
Chloride		150		10	mg/L	300.0
Ammonia		170		2.0	mg/L	L107-06-1B
Specific Conductance		2800		1.0	umhos/cm	SM 2510B
Dissolved						
Chromium		11		5.0	ug/L	6010B

EXECUTIVE SUMMARY - Detections

Client: Olin Corporation Job Number: 360-24081-1

Lab Sample ID / Analyte	Client Sample ID	Result / Qualifier		Reporting Limit	Units	Method
360-24081-9	**OC-GW-25 DUP**					
Sulfate		99		20	mg/L	300.0
Chloride		48		10	mg/L	300.0
Ammonia		50		0.50	mg/L	L107-06-1B
Specific Conductance		590		1.0	umhos/cm	SM 2510B
Dissolved						
Chromium		2.9	J	5.0	ug/L	6010B

METHOD SUMMARY

Client: Olin Corporation Job Number: 360-24081-1

Description	Lab Location	Method	Preparation Method
Matrix Water			
Dissolved Metals	TAL WFD	SW846 6010B	
Sample Filtration, Field	TAL WFD		FIELD_FLTRD
Chloride & Sulfate	TAL WFD	40CFR136A 300.0	
Nitrogen Ammonia	TAL WFD	LACHAT L107-06-1B	
Distillation, Ammonia	TAL WFD		Distill/Ammonia
Conductivity, Specific Conductance	TAL WFD	SM SM 2510B	

Lab References:

TAL WFD = TestAmerica Westfield

Method References:

40CFR136A = "Methods for Organic Chemical Analysis of Municipal Industrial Wastewater", 40CFR, Part 136, Appendix A, October 26, 1984 and subsequent revisions.

LACHAT = LACHAT

SM = "Standard Methods For The Examination Of Water And Wastewater",

SW846 = "Test Methods For Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 And Its Updates.

METHOD / ANALYST SUMMARY

Client: Olin Corporation

Job Number: 360-24081-1

Method	Analyst	Analyst ID
SW846 6010B	Nasiatka, Ellen M	EMN
40CFR136A 300.0	Lalashius, Andrew L	ALL
LACHAT L107-06-1B	Lalashius, Andrew L	ALL
SM SM 2510B	Emerich, Rich W	RWE

SAMPLE SUMMARY

Client: Olin Corporation

Job Number: 360-24081-1

Lab Sample ID	Client Sample ID	Client Matrix	Date/Time Sampled	Date/Time Received
360-24081-1	OC-GW-202S	Ground Water	08/10/2009 1525	08/12/2009 1840
360-24081-2	OC-GW-202D	Ground Water	08/10/2009 1530	08/12/2009 1840
360-24081-3	OC-PZ-16RR	Ground Water	08/11/2009 0900	08/12/2009 1840
360-24081-4	OC-PZ-17RR	Ground Water	08/11/2009 0955	08/12/2009 1840
360-24081-5	OC-GW-25	Ground Water	08/11/2009 0955	08/12/2009 1840
360-24081-5MS	OC-GW-25 MS	Ground Water	08/11/2009 0955	08/12/2009 1840
360-24081-5MSD	OC-GW-25 MSD	Ground Water	08/11/2009 0955	08/12/2009 1840
360-24081-6	OC-PZ-18R	Ground Water	08/11/2009 1120	08/12/2009 1840
360-24081-7	OC-GW-78S	Ground Water	08/11/2009 1320	08/12/2009 1840
360-24081-8	OC-GW-79S	Ground Water	08/11/2009 1330	08/12/2009 1840
360-24081-9	OC-GW-25 DUP	Ground Water	08/11/2009 0955	08/12/2009 1840

SAMPLE RESULTS

Mr. Steven Morrow
Olin Corporation
3855 North Ocoee Street
Suite 200
Cleveland, TN 37312-4441

Job Number: 360-24081-1

Client Sample ID: **OC-GW-202S**
Lab Sample ID: **360-24081-1**

Date Sampled: 08/10/2009 1525
Date Received: 08/12/2009 1840
Client Matrix: Ground Water

Analyte	Result/Qualifier		Unit	MDL	RL	Dilution
Method: Dissolved-6010B			Date Analyzed:		08/13/2009 1155	
Aluminum	ND		ug/L	39	100	1.0
Chromium	4.6	J	ug/L	1.3	5.0	1.0

Mr. Steven Morrow
Olin Corporation
3855 North Ocoee Street
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Cleveland, TN 37312-4441

Job Number: 360-24081-1

Client Sample ID: **OC-GW-202S**
Lab Sample ID: **360-24081-1**

Date Sampled: 08/10/2009 1525
Date Received: 08/12/2009 1840
Client Matrix: Ground Water

Analyte	Result/Qualifier	Unit	RL	RL	Dilution
Method: 300.0		Date Analyzed:		08/14/2009 2139	
Sulfate	430	mg/L	20	20	10
Chloride	42	mg/L	10	10	10
Method: L107-06-1B		Date Analyzed:		08/17/2009 1550	
Prep Method: Distill/Ammonia		Date Prepared:		08/17/2009 1345	
Ammonia	110	mg/L	1.0	1.0	10
Method: SM 2510B		Date Analyzed:		08/14/2009 1310	
Specific Conductance	1300	umhos/cm	1.0	1.0	1.0

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Job Number: 360-24081-1

Client Sample ID: **OC-GW-202D**
Lab Sample ID: **360-24081-2**

Date Sampled: 08/10/2009 1530
Date Received: 08/12/2009 1840
Client Matrix: Ground Water

Analyte	Result/Qualifier	Unit	MDL	RL	Dilution
Method: Dissolved-6010B		Date Analyzed:		08/13/2009 1158	
Aluminum	20000	ug/L	39	100	1.0
Chromium	1400	ug/L	1.3	5.0	1.0

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Job Number: 360-24081-1

Client Sample ID: **OC-GW-202D**
Lab Sample ID: **360-24081-2**

Date Sampled: 08/10/2009 1530
Date Received: 08/12/2009 1840
Client Matrix: Ground Water

Analyte	Result/Qualifier	Unit	RL	RL	Dilution
Method: 300.0		Date Analyzed:		08/19/2009 1840	
Sulfate	2100	mg/L	40	40	20
Chloride	340	mg/L	20	20	20
Method: L107-06-1B		Date Analyzed:		08/17/2009 1602	
Prep Method: Distill/Ammonia		Date Prepared:		08/17/2009 1345	
Ammonia	250	mg/L	2.0	2.0	20
Method: SM 2510B		Date Analyzed:		08/14/2009 1311	
Specific Conductance	5000	umhos/cm	1.0	1.0	1.0

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Job Number: 360-24081-1

Client Sample ID: **OC-PZ-16RR**
Lab Sample ID: **360-24081-3**

Date Sampled: 08/11/2009 0900
Date Received: 08/12/2009 1840
Client Matrix: Ground Water

Analyte	Result/Qualifier	Unit	MDL	RL	Dilution
Method: Dissolved-6010B		Date Analyzed:		08/13/2009 1200	
Aluminum	ND	ug/L	39	100	1.0
Chromium	6.7	ug/L	1.3	5.0	1.0

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Job Number: 360-24081-1

Client Sample ID: **OC-PZ-16RR**
Lab Sample ID: **360-24081-3**

Date Sampled: 08/11/2009 0900
Date Received: 08/12/2009 1840
Client Matrix: Ground Water

Analyte	Result/Qualifier	Unit	RL	RL	Dilution
Method: 300.0		Date Analyzed:		08/14/2009 2240	
Sulfate	880	mg/L	20	20	10
Chloride	150	mg/L	10	10	10
Method: L107-06-1B		Date Analyzed:		08/17/2009 1552	
Prep Method: Distill/Ammonia		Date Prepared:		08/17/2009 1345	
Ammonia	270	mg/L	2.0	2.0	20
Method: SM 2510B		Date Analyzed:		08/14/2009 1313	
Specific Conductance	2800	umhos/cm	1.0	1.0	1.0

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Job Number: 360-24081-1

Client Sample ID: **OC-PZ-17RR**
Lab Sample ID: **360-24081-4**

Date Sampled: 08/11/2009 0955
Date Received: 08/12/2009 1840
Client Matrix: Ground Water

Analyte	Result/Qualifier		Unit	MDL	RL	Dilution
Method: Dissolved-6010B			Date Analyzed:		08/13/2009 1203	
Aluminum	ND		ug/L	39	100	1.0
Chromium	3.4	J	ug/L	1.3	5.0	1.0

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Job Number: 360-24081-1

Client Sample ID: **OC-PZ-17RR**
Lab Sample ID: **360-24081-4**

Date Sampled: 08/11/2009 0955
Date Received: 08/12/2009 1840
Client Matrix: Ground Water

Analyte	Result/Qualifier	Unit	RL	RL	Dilution
Method: 300.0		Date Analyzed:		08/14/2009 2310	
Sulfate	470	mg/L	20	20	10
Chloride	15	mg/L	10	10	10
Method: L107-06-1B		Date Analyzed:		08/17/2009 1553	
Prep Method: Distill/Ammonia		Date Prepared:		08/17/2009 1345	
Ammonia	67	mg/L	1.0	1.0	10
Method: SM 2510B		Date Analyzed:		08/14/2009 1330	
Specific Conductance	1400	umhos/cm	1.0	1.0	1.0

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Job Number: 360-24081-1

Client Sample ID: **OC-GW-25**
Lab Sample ID: **360-24081-5**

Date Sampled: 08/11/2009 0955
Date Received: 08/12/2009 1840
Client Matrix: Ground Water

Analyte	Result/Qualifier		Unit	MDL	RL	Dilution
Method: Dissolved-6010B			Date Analyzed:		08/13/2009 1143	
Aluminum	ND		ug/L	39	100	1.0
Chromium	3.0	J	ug/L	1.3	5.0	1.0

Mr. Steven Morrow
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Job Number: 360-24081-1

Client Sample ID: **OC-GW-25**
Lab Sample ID: **360-24081-5**

Date Sampled: 08/11/2009 0955
Date Received: 08/12/2009 1840
Client Matrix: Ground Water

Analyte	Result/Qualifier	Unit	RL	RL	Dilution
Method: 300.0		Date Analyzed:		08/15/2009 0010	
Sulfate	100	mg/L	20	20	10
Chloride	50	mg/L	10	10	10
Method: L107-06-1B		Date Analyzed:		08/17/2009 1555	
Prep Method: Distill/Ammonia		Date Prepared:		08/17/2009 1345	
Ammonia	62	mg/L	0.50	0.50	5.0
Method: SM 2510B		Date Analyzed:		08/14/2009 1332	
Specific Conductance	580	umhos/cm	1.0	1.0	1.0

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3855 North Ocoee Street
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Cleveland, TN 37312-4441

Job Number: 360-24081-1

Client Sample ID: **OC-PZ-18R**
Lab Sample ID: **360-24081-6**

Date Sampled: 08/11/2009 1120
Date Received: 08/12/2009 1840
Client Matrix: Ground Water

Analyte	Result/Qualifier	Unit	MDL	RL	Dilution
Method: Dissolved-6010B		Date Analyzed:		08/13/2009 1206	
Aluminum	ND	ug/L	39	100	1.0
Chromium	19	ug/L	1.3	5.0	1.0

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Job Number: 360-24081-1

Client Sample ID: **OC-PZ-18R**
Lab Sample ID: **360-24081-6**

Date Sampled: 08/11/2009 1120
Date Received: 08/12/2009 1840
Client Matrix: Ground Water

Analyte	Result/Qualifier	Unit	RL	RL	Dilution
Method: 300.0		Date Analyzed:		08/15/2009 0056	
Sulfate	92	mg/L	2.0	2.0	1.0
Method: 300.0		Date Analyzed:		08/15/2009 0111	
Chloride	84	mg/L	10	10	10
Method: L107-06-1B		Date Analyzed:		08/17/2009 1558	
Prep Method: Distill/Ammonia		Date Prepared:		08/17/2009 1345	
Ammonia	46	mg/L	0.50	0.50	5.0
Method: SM 2510B		Date Analyzed:		08/14/2009 1334	
Specific Conductance	680	umhos/cm	1.0	1.0	1.0

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Job Number: 360-24081-1

Client Sample ID: **OC-GW-78S**
Lab Sample ID: **360-24081-7**

Date Sampled: 08/11/2009 1320
Date Received: 08/12/2009 1840
Client Matrix: Ground Water

Analyte	Result/Qualifier		Unit	MDL	RL	Dilution
Method: Dissolved-6010B			Date Analyzed:		08/13/2009 1215	
Aluminum	ND		ug/L	39	100	1.0
Chromium	2.6	J	ug/L	1.3	5.0	1.0

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Job Number: 360-24081-1

Client Sample ID: **OC-GW-78S**
Lab Sample ID: **360-24081-7**

Date Sampled: 08/11/2009 1320
Date Received: 08/12/2009 1840
Client Matrix: Ground Water

Analyte	Result/Qualifier	Unit	RL	RL	Dilution
Method: 300.0		Date Analyzed:		08/15/2009 0141	
Sulfate	510	mg/L	20	20	10
Chloride	17	mg/L	10	10	10
Method: L107-06-1B		Date Analyzed:		08/17/2009 1559	
Prep Method: Distill/Ammonia		Date Prepared:		08/17/2009 1345	
Ammonia	67	mg/L	1.0	1.0	10
Method: SM 2510B		Date Analyzed:		08/14/2009 1336	
Specific Conductance	1300	umhos/cm	1.0	1.0	1.0

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Job Number: 360-24081-1

Client Sample ID: **OC-GW-79S**
Lab Sample ID: **360-24081-8**

Date Sampled: 08/11/2009 1330
Date Received: 08/12/2009 1840
Client Matrix: Ground Water

Analyte	Result/Qualifier	Unit	MDL	RL	Dilution
Method: Dissolved-6010B		Date Analyzed:		08/13/2009 1218	
Aluminum	ND	ug/L	39	100	1.0
Chromium	11	ug/L	1.3	5.0	1.0

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Job Number: 360-24081-1

Client Sample ID: **OC-GW-79S**
Lab Sample ID: **360-24081-8**

Date Sampled: 08/11/2009 1330
Date Received: 08/12/2009 1840
Client Matrix: Ground Water

Analyte	Result/Qualifier	Unit	RL	RL	Dilution
Method: 300.0		Date Analyzed:		08/14/2009 1938	
Chloride	150	mg/L	10	10	10
Method: 300.0		Date Analyzed:		08/19/2009 2257	
Sulfate	1200	mg/L	40	40	20
Method: L107-06-1B		Date Analyzed:		08/17/2009 1600	
Prep Method: Distill/Ammonia		Date Prepared:		08/17/2009 1345	
Ammonia	170	mg/L	2.0	2.0	20
Method: SM 2510B		Date Analyzed:		08/14/2009 1337	
Specific Conductance	2800	umhos/cm	1.0	1.0	1.0

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Job Number: 360-24081-1

Client Sample ID: **OC-GW-25 DUP**
Lab Sample ID: **360-24081-9**

Date Sampled: 08/11/2009 0955
Date Received: 08/12/2009 1840
Client Matrix: Ground Water

Analyte	Result/Qualifier		Unit	MDL	RL	Dilution
Method: Dissolved-6010B			Date Analyzed:		08/13/2009 1221	
Aluminum	ND		ug/L	39	100	1.0
Chromium	2.9	J	ug/L	1.3	5.0	1.0

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Job Number: 360-24081-1

Client Sample ID: **OC-GW-25 DUP**
Lab Sample ID: **360-24081-9**

Date Sampled: 08/11/2009 0955
Date Received: 08/12/2009 1840
Client Matrix: Ground Water

Analyte	Result/Qualifier	Unit	RL	RL	Dilution
Method: 300.0		Date Analyzed:		08/14/2009 2109	
Sulfate	99	mg/L	20	20	10
Chloride	48	mg/L	10	10	10
Method: L107-06-1B		Date Analyzed:		08/17/2009 1601	
Prep Method: Distill/Ammonia		Date Prepared:		08/17/2009 1345	
Ammonia	50	mg/L	0.50	0.50	5.0
Method: SM 2510B		Date Analyzed:		08/14/2009 1339	
Specific Conductance	590	umhos/cm	1.0	1.0	1.0

DATA REPORTING QUALIFIERS

Client: Olin Corporation Job Number: 360-24081-1

Lab Section	Qualifier	Description
Metals		
	J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.
General Chemistry		
	4	MS, MSD: The analyte present in the original sample is 4 times greater than the matrix spike concentration; therefore, control limits are not applicable.

QUALITY CONTROL RESULTS

Client: Olin Corporation

Job Number: 360-24081-1

QC Association Summary

Lab Sample ID	Client Sample ID	Report Basis	Client Matrix	Method	Prep Batch
Metals					
Analysis Batch:360-47738					
LCS 360-47738/1	Lab Control Sample	T	Water	6010B	
LCSD 360-47738/4	Lab Control Sample Duplicate	T	Water	6010B	
MB 360-47738/2	Method Blank	T	Water	6010B	
360-24081-1	OC-GW-202S	D	Water	6010B	
360-24081-2	OC-GW-202D	D	Water	6010B	
360-24081-3	OC-PZ-16RR	D	Water	6010B	
360-24081-4	OC-PZ-17RR	D	Water	6010B	
360-24081-5	OC-GW-25	D	Water	6010B	
360-24081-5MS	Matrix Spike	D	Water	6010B	
360-24081-5MSD	Matrix Spike Duplicate	D	Water	6010B	
360-24081-6	OC-PZ-18R	D	Water	6010B	
360-24081-7	OC-GW-78S	D	Water	6010B	
360-24081-8	OC-GW-79S	D	Water	6010B	
360-24081-9	OC-GW-25 DUP	D	Water	6010B	

Report Basis

D = Dissolved

T = Total

Client: Olin Corporation Job Number: 360-24081-1

QC Association Summary

Lab Sample ID	Client Sample ID	Report Basis	Client Matrix	Method	Prep Batch
General Chemistry					
Analysis Batch:360-47801					
LCS 360-47801/1	Lab Control Sample	T	Water	SM 2510B	
LCS 360-47801/33	Lab Control Sample	T	Water	SM 2510B	
MB 360-47801/32	Method Blank	T	Water	SM 2510B	
MB 360-47801/4	Method Blank	T	Water	SM 2510B	
360-24081-1	OC-GW-202S	T	Water	SM 2510B	
360-24081-2	OC-GW-202D	T	Water	SM 2510B	
360-24081-3	OC-PZ-16RR	T	Water	SM 2510B	
360-24081-4	OC-PZ-17RR	T	Water	SM 2510B	
360-24081-5	OC-GW-25	T	Water	SM 2510B	
360-24081-5DU	Duplicate	T	Water	SM 2510B	
360-24081-6	OC-PZ-18R	T	Water	SM 2510B	
360-24081-7	OC-GW-78S	T	Water	SM 2510B	
360-24081-8	OC-GW-79S	T	Water	SM 2510B	
360-24081-9	OC-GW-25 DUP	T	Water	SM 2510B	
Analysis Batch:360-47822					
LCS 360-47822/4	Lab Control Sample	T	Water	300.0	
MB 360-47822/3	Method Blank	T	Water	300.0	
360-24081-8	OC-GW-79S	T	Water	300.0	
Analysis Batch:360-47823					
LCS 360-47823/4	Lab Control Sample	T	Water	300.0	
MB 360-47823/3	Method Blank	T	Water	300.0	
360-24081-1	OC-GW-202S	T	Water	300.0	
360-24081-3	OC-PZ-16RR	T	Water	300.0	
360-24081-4	OC-PZ-17RR	T	Water	300.0	
360-24081-5	OC-GW-25	T	Water	300.0	
360-24081-5MS	Matrix Spike	T	Water	300.0	
360-24081-5MSD	Matrix Spike Duplicate	T	Water	300.0	
360-24081-6	OC-PZ-18R	T	Water	300.0	
360-24081-7	OC-GW-78S	T	Water	300.0	
360-24081-9	OC-GW-25 DUP	T	Water	300.0	

Client: Olin Corporation

Job Number: 360-24081-1

QC Association Summary

Lab Sample ID	Client Sample ID	Report Basis	Client Matrix	Method	Prep Batch
General Chemistry					
Prep Batch: 360-47843					
LCS 360-47843/2-A	Lab Control Sample	T	Water	Distill/Ammonia	
MB 360-47843/1-A	Method Blank	T	Water	Distill/Ammonia	
360-24081-1	OC-GW-202S	T	Water	Distill/Ammonia	
360-24081-2	OC-GW-202D	T	Water	Distill/Ammonia	
360-24081-3	OC-PZ-16RR	T	Water	Distill/Ammonia	
360-24081-4	OC-PZ-17RR	T	Water	Distill/Ammonia	
360-24081-5	OC-GW-25	T	Water	Distill/Ammonia	
360-24081-5MS	Matrix Spike	T	Water	Distill/Ammonia	
360-24081-5MSD	Matrix Spike Duplicate	T	Water	Distill/Ammonia	
360-24081-6	OC-PZ-18R	T	Water	Distill/Ammonia	
360-24081-7	OC-GW-78S	T	Water	Distill/Ammonia	
360-24081-8	OC-GW-79S	T	Water	Distill/Ammonia	
360-24081-9	OC-GW-25 DUP	T	Water	Distill/Ammonia	
Analysis Batch:360-47865					
LCS 360-47843/2-A	Lab Control Sample	T	Water	L107-06-1B	360-47843
MB 360-47843/1-A	Method Blank	T	Water	L107-06-1B	360-47843
360-24081-1	OC-GW-202S	T	Water	L107-06-1B	360-47843
360-24081-2	OC-GW-202D	T	Water	L107-06-1B	360-47843
360-24081-3	OC-PZ-16RR	T	Water	L107-06-1B	360-47843
360-24081-4	OC-PZ-17RR	T	Water	L107-06-1B	360-47843
360-24081-5	OC-GW-25	T	Water	L107-06-1B	360-47843
360-24081-5MS	Matrix Spike	T	Water	L107-06-1B	360-47843
360-24081-5MSD	Matrix Spike Duplicate	T	Water	L107-06-1B	360-47843
360-24081-6	OC-PZ-18R	T	Water	L107-06-1B	360-47843
360-24081-7	OC-GW-78S	T	Water	L107-06-1B	360-47843
360-24081-8	OC-GW-79S	T	Water	L107-06-1B	360-47843
360-24081-9	OC-GW-25 DUP	T	Water	L107-06-1B	360-47843
Analysis Batch:360-47958					
LCS 360-47958/4	Lab Control Sample	T	Water	300.0	
MB 360-47958/3	Method Blank	T	Water	300.0	
360-24081-2	OC-GW-202D	T	Water	300.0	
Analysis Batch:360-47960					
LCS 360-47960/4	Lab Control Sample	T	Water	300.0	
MB 360-47960/3	Method Blank	T	Water	300.0	
360-24081-8	OC-GW-79S	T	Water	300.0	

Report Basis

T = Total

Client: Olin Corporation

Job Number: 360-24081-1

Method Blank - Batch: 360-47738

Method: 6010B
Preparation: N/A

Lab Sample ID: MB 360-47738/2
Client Matrix: Water
Dilution: 1.0
Date Analyzed: 08/13/2009 1013
Date Prepared: N/A

Analysis Batch: 360-47738
Prep Batch: N/A
Units: ug/L

Instrument ID: Varian 720 ES ICP
Lab File ID: N/A
Initial Weight/Volume:
Final Weight/Volume: 1.0 mL

Analyte	Result	Qual	MDL	RL
Aluminum	ND		39	100
Chromium	ND		1.3	5.0

Lab Control Sample/
Lab Control Sample Duplicate Recovery Report - Batch: 360-47738

Method: 6010B
Preparation: N/A

LCS Lab Sample ID: LCS 360-47738/1
Client Matrix: Water
Dilution: 1.0
Date Analyzed: 08/13/2009 1011
Date Prepared: N/A

Analysis Batch: 360-47738
Prep Batch: N/A
Units: ug/L

Instrument ID: Varian 720 ES ICP
Lab File ID: N/A
Initial Weight/Volume:
Final Weight/Volume: 10 mL

LCSD Lab Sample ID: LCSD 360-47738/4
Client Matrix: Water
Dilution: 1.0
Date Analyzed: 08/13/2009 1100
Date Prepared: N/A

Analysis Batch: 360-47738
Prep Batch: N/A
Units: ug/L

Instrument ID: Varian 720 ES ICP
Lab File ID: N/A
Initial Weight/Volume:
Final Weight/Volume: 10 mL

	% Rec.						
Analyte	LCS	LCSD	Limit	RPD	RPD Limit	LCS Qual	LCSD Qual
Aluminum	100	99	80 - 120	1	20		
Chromium	99	98	80 - 120	1	20		

Calculations are performed before rounding to avoid round-off errors in calculated results.

Client: Olin Corporation

Job Number: 360-24081-1

Matrix Spike/
Matrix Spike Duplicate Recovery Report - Batch: 360-47738

Method: 6010B
Preparation: N/A

MS Lab Sample ID:	360-24081-5	Analysis Batch: 360-47738	Instrument ID: Varian 720 ES ICP
Client Matrix:	Water	Prep Batch: N/A	Lab File ID: N/A
Dilution:	1.0		Initial Weight/Volume:
Date Analyzed:	08/13/2009 1146		Final Weight/Volume: 10 mL
Date Prepared:	N/A		

MSD Lab Sample ID:	360-24081-5	Analysis Batch: 360-47738	Instrument ID: Varian 720 ES ICP
Client Matrix:	Water	Prep Batch: N/A	Lab File ID: N/A
Dilution:	1.0		Initial Weight/Volume:
Date Analyzed:	08/13/2009 1149		Final Weight/Volume: 10 mL
Date Prepared:	N/A		

	% Rec.						
Analyte	MS	MSD	Limit	RPD	RPD Limit	MS Qual	MSD Qual
Aluminum	102	102	75 - 125	0	20		
Chromium	101	101	75 - 125	0	20		

Calculations are performed before rounding to avoid round-off errors in calculated results.

Client: Olin Corporation

Job Number: 360-24081-1

Method Blank - Batch: 360-47822

Method: 300.0
Preparation: N/A

Lab Sample ID: MB 360-47822/3
Client Matrix: Water
Dilution: 1.0
Date Analyzed: 08/14/2009 1406
Date Prepared: N/A

Analysis Batch: 360-47822
Prep Batch: N/A
Units: mg/L

Instrument ID: No Equipment Assigned
Lab File ID: N/A
Initial Weight/Volume: 1.0 mL
Final Weight/Volume: 1.0 mL

Analyte	Result	Qual	RL	RL
Sulfate	ND		2.0	2.0
Chloride	ND		1.0	1.0

Lab Control Sample - Batch: 360-47822

Method: 300.0
Preparation: N/A

Lab Sample ID: LCS 360-47822/4
Client Matrix: Water
Dilution: 1.0
Date Analyzed: 08/14/2009 1421
Date Prepared: N/A

Analysis Batch: 360-47822
Prep Batch: N/A
Units: mg/L

Instrument ID: No Equipment Assigned
Lab File ID: N/A
Initial Weight/Volume: 1.0 mL
Final Weight/Volume: 1.0 mL

Analyte	Spike Amount	Result	% Rec.	Limit	Qual
Sulfate	80.0	80.9	101	85 - 115	
Chloride	40.0	40.5	101	85 - 115	

Calculations are performed before rounding to avoid round-off errors in calculated results.

Client: Olin Corporation

Job Number: 360-24081-1

Method Blank - Batch: 360-47823

Method: 300.0
Preparation: N/A

Lab Sample ID: MB 360-47823/3
Client Matrix: Water
Dilution: 1.0
Date Analyzed: 08/14/2009 2039
Date Prepared: N/A

Analysis Batch: 360-47823
Prep Batch: N/A
Units: mg/L

Instrument ID: No Equipment Assigned
Lab File ID: N/A
Initial Weight/Volume: 1.0 mL
Final Weight/Volume: 1.0 mL

Analyte	Result	Qual	RL	RL
Sulfate	ND		2.0	2.0
Chloride	ND		1.0	1.0

Lab Control Sample - Batch: 360-47823

Method: 300.0
Preparation: N/A

Lab Sample ID: LCS 360-47823/4
Client Matrix: Water
Dilution: 1.0
Date Analyzed: 08/14/2009 2054
Date Prepared: N/A

Analysis Batch: 360-47823
Prep Batch: N/A
Units: mg/L

Instrument ID: No Equipment Assigned
Lab File ID: N/A
Initial Weight/Volume: 1.0 mL
Final Weight/Volume: 1.0 mL

Analyte	Spike Amount	Result	% Rec.	Limit	Qual
Sulfate	80.0	81.2	101	85 - 115	
Chloride	40.0	40.4	101	85 - 115	

Calculations are performed before rounding to avoid round-off errors in calculated results.

Client: Olin Corporation

Job Number: 360-24081-1

Matrix Spike/
Matrix Spike Duplicate Recovery Report - Batch: 360-47823

Method: 300.0
Preparation: N/A

MS Lab Sample ID:	360-24081-5	Analysis Batch:	360-47823	Instrument ID:	No Equipment Assigned
Client Matrix:	Water	Prep Batch:	N/A	Lab File ID:	N/A
Dilution:	10			Initial Weight/Volume:	1.0 mL
Date Analyzed:	08/15/2009 0025			Final Weight/Volume:	10 mL
Date Prepared:	N/A				

MSD Lab Sample ID:	360-24081-5	Analysis Batch:	360-47823	Instrument ID:	No Equipment Assigned
Client Matrix:	Water	Prep Batch:	N/A	Lab File ID:	N/A
Dilution:	10			Initial Weight/Volume:	1.0 mL
Date Analyzed:	08/15/2009 0040			Final Weight/Volume:	10 mL
Date Prepared:	N/A				

	% Rec.						
Analyte	MS	MSD	Limit	RPD	RPD Limit	MS Qual	MSD Qual
Sulfate	118	118	75 - 125	0	20		
Chloride	117	118	75 - 125	0	20		

Calculations are performed before rounding to avoid round-off errors in calculated results.

Client: Olin Corporation

Job Number: 360-24081-1

Method Blank - Batch: 360-47958

Method: 300.0
Preparation: N/A

Lab Sample ID: MB 360-47958/3
Client Matrix: Water
Dilution: 1.0
Date Analyzed: 08/19/2009 1554
Date Prepared: N/A

Analysis Batch: 360-47958
Prep Batch: N/A
Units: mg/L

Instrument ID: No Equipment Assigned
Lab File ID: N/A
Initial Weight/Volume: 1.0 mL
Final Weight/Volume: 1.0 mL

Analyte	Result	Qual	RL	RL
Sulfate	ND		2.0	2.0
Chloride	ND		1.0	1.0

Lab Control Sample - Batch: 360-47958

Method: 300.0
Preparation: N/A

Lab Sample ID: LCS 360-47958/4
Client Matrix: Water
Dilution: 1.0
Date Analyzed: 08/19/2009 1609
Date Prepared: N/A

Analysis Batch: 360-47958
Prep Batch: N/A
Units: mg/L

Instrument ID: No Equipment Assigned
Lab File ID: N/A
Initial Weight/Volume: 1.0 mL
Final Weight/Volume: 1.0 mL

Analyte	Spike Amount	Result	% Rec.	Limit	Qual
Sulfate	80.0	81.4	102	85 - 115	
Chloride	40.0	40.4	101	85 - 115	

Calculations are performed before rounding to avoid round-off errors in calculated results.

Method Blank - Batch: 360-47960

Method: 300.0
Preparation: N/A

Lab Sample ID: MB 360-47960/3
Client Matrix: Water
Dilution: 1.0
Date Analyzed: 08/19/2009 2227
Date Prepared: N/A

Analysis Batch: 360-47960
Prep Batch: N/A
Units: mg/L

Instrument ID: No Equipment Assigned
Lab File ID: N/A
Initial Weight/Volume: 1.0 mL
Final Weight/Volume: 1.0 mL

Analyte	Result	Qual	RL	RL
Sulfate	ND		2.0	2.0
Chloride	ND		1.0	1.0

Lab Control Sample - Batch: 360-47960

Method: 300.0
Preparation: N/A

Lab Sample ID: LCS 360-47960/4
Client Matrix: Water
Dilution: 1.0
Date Analyzed: 08/19/2009 2242
Date Prepared: N/A

Analysis Batch: 360-47960
Prep Batch: N/A
Units: mg/L

Instrument ID: No Equipment Assigned
Lab File ID: N/A
Initial Weight/Volume: 1.0 mL
Final Weight/Volume: 1.0 mL

Analyte	Spike Amount	Result	% Rec.	Limit	Qual
Sulfate	80.0	81.5	102	85 - 115	
Chloride	40.0	40.7	102	85 - 115	

Calculations are performed before rounding to avoid round-off errors in calculated results.

Client: Olin Corporation

Job Number: 360-24081-1

Method Blank - Batch: 360-47843

Method: L107-06-1B
Preparation: Distill/Ammonia

Lab Sample ID: MB 360-47843/1-A
Client Matrix: Water
Dilution: 1.0
Date Analyzed: 08/17/2009 1521
Date Prepared: 08/17/2009 1345

Analysis Batch: 360-47865
Prep Batch: 360-47843
Units: mg/L

Instrument ID: No Equipment Assigned
Lab File ID: N/A
Initial Weight/Volume: 1.0 mL
Final Weight/Volume: 50 mL

Analyte	Result	Qual	RL	RL
Ammonia	ND		0.10	0.10

Lab Control Sample - Batch: 360-47843

Method: L107-06-1B
Preparation: Distill/Ammonia

Lab Sample ID: LCS 360-47843/2-A
Client Matrix: Water
Dilution: 1.0
Date Analyzed: 08/17/2009 1522
Date Prepared: 08/17/2009 1345

Analysis Batch: 360-47865
Prep Batch: 360-47843
Units: mg/L

Instrument ID: No Equipment Assigned
Lab File ID: N/A
Initial Weight/Volume: 1.0 mL
Final Weight/Volume: 50 mL

Analyte	Spike Amount	Result	% Rec.	Limit	Qual
Ammonia	10.0	9.96	100	85 - 115	

Matrix Spike/
Matrix Spike Duplicate Recovery Report - Batch: 360-47843

Method: L107-06-1B
Preparation: Distill/Ammonia

MS Lab Sample ID: 360-24081-5
Client Matrix: Water
Dilution: 10
Date Analyzed: 08/17/2009 1556
Date Prepared: 08/17/2009 1345

Analysis Batch: 360-47865
Prep Batch: 360-47843

Instrument ID: No Equipment Assigned
Lab File ID: N/A
Initial Weight/Volume: 1.0 mL
Final Weight/Volume: 50 mL

MSD Lab Sample ID: 360-24081-5
Client Matrix: Water
Dilution: 10
Date Analyzed: 08/17/2009 1557
Date Prepared: 08/17/2009 1345

Analysis Batch: 360-47865
Prep Batch: 360-47843

Instrument ID: No Equipment Assigned
Lab File ID: N/A
Initial Weight/Volume: 1.0 mL
Final Weight/Volume: 50 mL

Analyte	% Rec. MS	% Rec. MSD	Limit	RPD	RPD Limit	MS Qual	MSD Qual
Ammonia	-8	-147	75 - 125	26	20	4	4

Calculations are performed before rounding to avoid round-off errors in calculated results.

Client: Olin Corporation

Job Number: 360-24081-1

Method Blank - Batch: 360-47801

Method: SM 2510B
Preparation: N/A

Lab Sample ID: MB 360-47801/4
Client Matrix: Water
Dilution: 1.0
Date Analyzed: 08/14/2009 1157
Date Prepared: N/A

Analysis Batch: 360-47801
Prep Batch: N/A
Units: umhos/cm

Instrument ID: MAN-TECH Ion Plus
Lab File ID: N/A
Initial Weight/Volume:
Final Weight/Volume: 1.0 mL

Analyte	Result	Qual	RL	RL
Specific Conductance	ND		1.0	1.0

Method Blank - Batch: 360-47801

Method: SM 2510B
Preparation: N/A

Lab Sample ID: MB 360-47801/32
Client Matrix: Water
Dilution: 1.0
Date Analyzed: 08/14/2009 1327
Date Prepared: N/A

Analysis Batch: 360-47801
Prep Batch: N/A
Units: umhos/cm

Instrument ID: MAN-TECH Ion Plus
Lab File ID: N/A
Initial Weight/Volume:
Final Weight/Volume: 1.0 mL

Analyte	Result	Qual	RL	RL
Specific Conductance	ND		1.0	1.0

Calculations are performed before rounding to avoid round-off errors in calculated results.

Client: Olin Corporation

Job Number: 360-24081-1

Lab Control Sample - Batch: 360-47801

Method: SM 2510B
Preparation: N/A

Lab Sample ID: LCS 360-47801/1
Client Matrix: Water
Dilution: 1.0
Date Analyzed: 08/14/2009 1132
Date Prepared: N/A

Analysis Batch: 360-47801
Prep Batch: N/A
Units: umhos/cm

Instrument ID: MAN-TECH Ion Plus
Lab File ID: N/A
Initial Weight/Volume:
Final Weight/Volume: 1.0 mL

Analyte	Spike Amount	Result	% Rec.	Limit	Qual
Specific Conductance	1420	1410	99	85 - 115	

Lab Control Sample - Batch: 360-47801

Method: SM 2510B
Preparation: N/A

Lab Sample ID: LCS 360-47801/33
Client Matrix: Water
Dilution: 1.0
Date Analyzed: 08/14/2009 1329
Date Prepared: N/A

Analysis Batch: 360-47801
Prep Batch: N/A
Units: umhos/cm

Instrument ID: MAN-TECH Ion Plus
Lab File ID: N/A
Initial Weight/Volume:
Final Weight/Volume: 1.0 mL

Analyte	Spike Amount	Result	% Rec.	Limit	Qual
Specific Conductance	1420	1370	97	85 - 115	

Duplicate - Batch: 360-47801

Method: SM 2510B
Preparation: N/A

Lab Sample ID: 360-24081-5
Client Matrix: Water
Dilution: 1.0
Date Analyzed: 08/14/2009 1333
Date Prepared: N/A

Analysis Batch: 360-47801
Prep Batch: N/A
Units: umhos/cm

Instrument ID: MAN-TECH Ion Plus Autotitrat
Lab File ID: N/A
Initial Weight/Volume:
Final Weight/Volume: 1.0 mL

Analyte	Sample Result/Qual	Result	RPD	Limit	Qual
Specific Conductance	580	581	1	20	

Calculations are performed before rounding to avoid round-off errors in calculated results.

State Accreditation Matrix

Method Name	Description	State where Primary Accreditation is Carried				
		New York (NELAC)	Mass	Conn	Florida (NELAC)	North Carolina
821-R-02-012	Toxicity, Acute (48-Hour)(list upon request)				NP	
SM 4500 Cl F	Chlorine, Residual		NP			
SM 9215B	Heterotrophic Plate Count (Pour Plate Method)		P			
SM 9215E	Heterotrophic Plate Count (SimPlate)		P			
SM 9221F	E.Coli (Multiple-Tube Fermentation; EC-MUG)		P			
SM 9222B	Coliforms, Total (Membrane Filter)		P			
SM 9222D	Coliforms, Fecal (Membrane Filter)		P/NP			
SM 9223	Coliforms, Total, and E.Coli (Colilert-P/A)		P			
200.8	Metals (ICP/MS) (list upon request)	NP/P	NP/P	NP/P		
200.7 Rev 4.4	Metals (ICP)(list upon request)	NP/P	NP/P	NP/P		
6010B	Metals (ICP)(list upon request)	NP/SW		NP/SW		
245.1	Mercury (CVAA)	NP/P	NP	NP/P		
7470A	Mercury (CVAA)	NP		NP		
7471A	Mercury (CVAA)	SW		SW		
SM 2340B	Total Hardness (as CaCO3) by calculation	NP/P	NP	NP/P		
3005A	Preparation, Total Recoverable or Dissolved Metals	NP/P		NP/P		
3010A	Preparation, Total Metals	NP/P		NP/P		
3020A	Preparation, Total Metals	NP/P/SW		NP/P/SW		
3050B	Preparation, Metals	SW		SW		
504.1	EDB, DBCP and 1,2,3-TCP (GC)		P	P		
608	Organochlorine Pest/PCBs (list upon request)	NP	NP	NP		
625	Semivolatile Org Comp (GC/MS)(list upon request)	NP		NP		
3546	Microwave Extraction	SW				
3510C	Liquid-Liquid Extraction (Separatory Funnel)	NP		NP		
3540C	Soxhlet Extraction					
3550B	Ultrasonic Extraction	SW		SW		
600/4-81-045	Polychlorinated Biphenyls (PCBs) (GC)		NP	NP		
8081A	Organochlorine Pesticides (GC)(list upon request)	NP/SW		NP/SW		
8082A	PCBs by Gas Chromatography(list upon request)	NP/SW		NP/SW		
8270C	Semivolatile Comp.(GC/MS)(list upon request)	NP/SW		NP/SW		
CT ETPH	Conn - Ext. Total petroleum Hydrocarbons (GC)			NP/SW		
MA-EPH	Mass - Extractable Petroleum Hydrocarbons (GC)			NP/SW		NP/SW
524.2	Volatile Org Comp (GC/MS)(list upon request)	P	P	P		
524.2	Trihalomethanes		P	P		
624	Volatile Org Comp (GC/MS)(list upon request)	NP	NP	NP		
5035	Closed System Purge and Trap	SW		SW		
5030B	Purge and Trap	NP		NP		
8260B	Volatile Org Comp. (GC/MS)(list upon request)	NP/SW		NP/SW		
MAVPH	Mass - Volatile Petroleum Hydrocarbons (GC)			NP/SW		NP/SW
180.1	Turbidity, Nephelometric		P	P		
300	Anions, Ion Chromatography	NP/P	NP/P	NP/P		
410.4	COD	NP	NP	NP		
1010	Ignitability, Pensky-Martens Closed-Cup Method	SW		SW		
10-107-06-2	Nitrogen, Total Kjeldahl	NP	NP	NP		
7196A	Chromium, Hexavalent	NP/SW		NP/SW		
9012A	Cyanide, Total and/or Amenable	NP/SW		NP/SW		
9030B	Sulfide, Distillation (Acid Soluble and Insoluble)	NP		NP		
9040B	pH	NP		NP		
9045C	pH	SW		SW		
L107041C	Nitrogen, Nitrate	NP	P	NP/P		
L107-06-1B	Nitrogen Ammonia	NP	NP	NP/P		
L204001A CN	Cyanide, Total		NP/P	NP/P		
L210-001A	Phenolics, Total Recoverable	NP	NP	NP		
SM 2320B	Alkalinity	NP/P	NP/P	NP/P		
SM 2510B	Conductivity, Specific Conductance	NP/P	NP/P	NP/P		
SM 2540C	Solids, Total Dissolved (TDS)	NP/P	NP/P	NP/P		
SM 2540D	Solids, Total Suspended (TSS)	NP	NP	NP		
SM 3500 CR D	Chromium, Hexavalent	NP		NP		
SM 4500 H+ B	pH	NP/P	NP/P	NP/P		
SM 4500 NO2 B	Nitrogen, Nitrite	NP	P	NP/P		
SM 4500 P E	Phosphorus, Orthophosphate	NP/P	NP	NP/P		
SM 4500 P E	Phosphorus, Total	NP	NP	NP		
SM 4500 S2 D	Sulfide, Total	NP		NP		
SM 5210B	BOD, 5-Day	NP	NP	NP		
SM 5310B	Organic Carbon, Total (TOC)	NP	NP	NP/P		

Not all organic compounds are accreditied under NELAC
For methods with multiple compounds all compounds may not meet NELAC criteria, listing should be obtained from the laboratory
The lab carries additional accreditations with several states. This is listing is subject to change based on the laboratories current certification standing.

Login Sample Receipt Check List

Client: Olin Corporation

Job Number: 360-24081-1

Login Number: 24081

List Source: TestAmerica Westfield

Creator: Rinard, Kimberley A

List Number: 1

Question	T / F/ NA	Comment
Radioactivity either was not measured or, if measured, is at or below background	N/A	
The cooler's custody seal, if present, is intact.	N/A	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	1.2 C
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
There are no discrepancies between the sample IDs on the containers and the COC.	True	
Samples are received within Holding Time.	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
VOA sample vials do not have headspace or bubble is <6mm (1/4") in diameter.	N/A	
If necessary, staff have been informed of any short hold time or quick TAT needs	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Is the Field Sampler's name present on COC?	True	
Sample Preservation Verified	True	

TestAmerica Laboratories, Inc.

Chain of Custody Form

TestAmerica

360-24081

•53 Southampton Road
Westfield, MA 01085
(P) 413-572-4000
(F) 413-572-3707

•149 Rangeway Road
N. Billerica, MA 01862
(P) 978-667-1400
(F) 978-667-7871

Job#	Quote#	PO#

Client: Olin Chemical/MACTEC
Project #: 61070090016
Address: 51 Eames Street
Project Manager: Peter Thompson
Wilmington, MA 01887
Work ID: ~~PGMP~~ Slurry Wall / Cap
Phone: Fax:
Contact: David Chapman

Requested Turn Around Time
10 Business Day (Std) XX | Rush TAT Requested:
15 Business Day | 24 hrs ___ 72 hrs ___
Other | 48 hrs ___ 5 Day ___

Regulatory Classification / Special Report Format
NPDES ___ Drinking Water ___ DEP Form(s) ___
RCRA ___ MCP GW1/S1 ___ MWRA Smart Rpt ___
Other ___ MCP QA/QC Rpt XX

Shaded areas for office use

Analysis Requested
Check analysis and specify method and analytes in comments section.
For example:
500-series for drinking water
600-series for waste water
8000-series for haz/solid waste
Use comments section to further define.

Comments
(Special Instructions)

MCP case narrative

Dissolved metals are field filtered.

Groundwater Metals: Dissolved Al/Cr

Surfacewater Metals: Dissolved/Total Al/Cr/Na

Sample Type Codes
WW-Wastewater DW-Drinking water SW-Surfacewater
LW-Labwater GW-Groundwater A-Air
S-Solid / Soil SL-Sludge O-Oil Z-Other

Sample ID	Sample Type	Sampler's Initials	Date Time Collected	Grab	Comp.	# Containers	Plastic(P) or Glass(G)	Preservative: NaHSO4/MeOH	HNO3 to pH <2	H2SO4 to pH <2	HCl to pH <2	NaOH to pH >12	NAOH/ZNAC	None / 4° C	Ammonia-Nitrogen	Chloride, Sulfate	Specific Conductivity	Nitrate, Nitrite	Groundwater metals	Surfacewater metals	Sediment: Al/Cr/Fe	Other	Other	Other	Other	Other	Other
OC-GW-202S	GW	MAM	8-10-09 15:25	✓		3	P		1	1				1	✓	✓	✓		✓								
OC-GW-202D	GW	DLC	8-10-09 15:30	✓		3	P		1	1				1	✓	✓	✓		✓								
OC-PZ-16RR	GW	DLC	8-11-09 9:00	✓		3	P		1	1				1	✓	✓	✓		✓								
OC-PZ-17RR	GW	DLC	8-11-09 9:55	✓		3	P		1	1				1	✓	✓	✓		✓								
OC-GW-25	GW	MAM	8-11-09 9:55	✓		3	P		1	1				1	✓	✓	✓		✓								
OC-PZ-18R	GW	MAM	8-11-09 11:20	✓		3	P		1	1				1	✓	✓	✓		✓								
OC-GW-78S	GW	MAM	8-11-09 13:20	✓		3	P		1	1				1	✓	✓	✓		✓								
OC-GW-79S	GW	DLC	8-11-09 13:30	✓		3	P		1	1				1	✓	✓	✓		✓								
OC-GW-25 DUP	GW	MAM	8-11-09 9:55	✓		3	P		1	1				1	✓	✓	✓		✓								
OC-GW-25 MS	GW	MAM	8-11-09 9:55	✓		3	P		1	1				1	✓	✓	✓		✓								

Sampled by (print): David Chapman / Mark Maggiore
Signature:

Relinquished by: David Chapman Date: 8-12-09 Time: 1630
Received by: Date: 8-12-09 Time: 1630

Relinquished by: Date: 8-12-09 Time: 1840
Received by: Date: 8/12/09 Time: 1840

Method of shipment:

TestAmerica-Westfield

Cooler ? Y / N Samples Iced? Y / N
Temp @ receipt: 1.2°C °C
Preservation/pH checked
By: Date: 8/12/09

White = Lab file Yellow = Report copy Pink = Customer copy
STL-8245 (1000)

TestAmerica Laboratories, Inc.

Chain of Custody Form

TestAmerica

360 24081

•53 Southampton Road
Westfield, MA 01085
(P) 413-572-4000
(F) 413-572-3707

•149 Rangeway Road
N. Billerica, MA 01862
(P) 978-667-1400
(F) 978-667-7871

Client: Olin Chemical/MACTEC
Project #: 6107090016
Job# | Quote# | PO#

Address: 51 Eames Street
Project Manager: Peter Thompson

Wilmington, MA 01887
Work ID: ~~PGMP~~ Slurry Wall Cap

Phone: Fax:
Contact: David Chapman

Shaded areas for office use

Analysis Requested
Check analysis and specify method and analytes in comments section.
For example:
500-series for drinking water
600-series for waste water
8000-series for haz/solid waste
Use comments section to further define.

Comments
(Special Instructions)

MCP case narrative

Dissolved metals are field filtered.

Groundwater Metals: Dissolved Al/Cr

Surfacewater Metals: Dissolved/Total Al/Cr/Na

Requested Turn Around Time

10 Business Day (Std)	XX	Rush TAT Requested:	
15 Business Day		24 hrs	72 hrs
Other		48 hrs	5 Day

Regulatory Classification / Special Report Format

NPDES		Drinking Water	DEP Form(s)
RCRA		MCP GW1/S1	MWRA Smart Rpt
Other			MCP QA/QC Rpt XX

Sample Type Codes
WW-Wastewater DW-Drinking water SW-Surfacewater
LW-Labwater GW-Groundwater A-Air
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Sample ID	Sample Type	Sampler's Initials	Date Time Collected	Grab	Comp.	# Containers	Plastic(P) or Glass(G)	Preservative: NaHSO4/MeOH	HNO3 to pH <2	H2SO4 to pH <2	HCl to pH <2	NaOH to pH >12	NAOH/ZNAC	None / 4° C	Ammonia-Nitrogen	Chloride, Sulfate	Specific Condutivity	Nitrate, Nitrite	Groundwater metals	Surfacewater metals	Sediment: Al/Cr/Fe	Other	Other	Other	Other	Other	Other
OC-GW-25 MSD	GW	MAM	8-11-09 9:55	✓		3	P		1	1				1	✓	✓	✓		✓								

Page 50 of 50

Sampled by (print): Mark Maggiore
Signature:

Relinquished by: David Chapman	Date: 8-12-09	Time: 1630	Received by:	Date: 8/12/09	Time: 1630
Relinquished by:	Date: 8-12-09	Time: 1840	Received by:	Date: 8/12/09	Time: 1840

Method of shipment:

TestAmerica-Westfield

Cooler ? (Y) / N Samples Iced? (Y) / N
Temp @ receipt: 1.2° °C
Preservation/pH checked
By: Date: 8/12/09

White = Lab file Yellow = Report copy Pink = Customer copy
STL-8245 (1000)